

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

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AGRICULTURE.

A DISCOURSE, READ BEFORE THE

Essex Agricultural Society,

IN MASSACHUSETTS, FEBRUARY 21, 1820,

Suggesting some Improvements in the Agriculture of the County.

BY TIMOTHY PICKERING,

PRESIDENT OF THE SOCIETY.

At a meeting of the Essex Agricultural Society, at Topsfield, February 21, 1820,

Voted, That the thanks of the Society be presented to the Hon. TIMOTHY PICKERING, for his interesting Address, and that he be requested to furnish a copy thereof for publication.

Attest.

FREDERICK HOWES, *Secretary.*

DISCOURSE.

GENTLEMEN,

The Secretary has put into my hands a vote of the Society, requesting me, 'to make to it such communications as may in my opinion most conduce to the interest of Agriculture.'

This was an unlooked-for request. I have myself much to learn from observing farmers of longer experience, and whose attentions have been exclusively devoted to husbandry. Mine, since I became a farmer, have been diverted by other pursuits; so that at intervals only my thoughts have been turned to this subject.

No one doubts the importance of our profession; and the actual formation of our society is a declaration that improvements in it are necessary. But the Field of Agriculture is of boundless extent; and though traversed for some thousands of years by the greater portion of the human race, yet by no one, nor by all combined, has a complete survey been accomplished. Every year, and every day presents something new: and even of old things, the practices of ages, there still exist diversities of opinions. For instance, which is preferable, deep or shallow ploughing?—Should manures be spread on the surface, or be buried by the plough? If the latter, at what depth, to produce the greatest effect, with the most lasting fertility?—Should manure be applied in its rough, coarse and unfermented state, or, by keeping and repeated turnings, be more or less rotted?—These are points which appear to me deeply to affect the interests of agriculture. On these therefore I will give you my opinion, enlightened by the observations of intelligent husbandmen. I will then advert to a few other topics which demand your attention; dwelling on one of them—Root-Crops for the Food of Live Stock—as lying at the foundation of an Improved Agriculture.

I. ON DEEP PLOUGHING AND MANURING.

For myself, I entertain no doubt of the utility of deep ploughing; not at once in our lands in general, but by an increase of two or three inches at every annual ploughing, until the earth be stirred and pulverised to the depth of ten or twelve inches. Indian corn, planted in such a mass of loosened earth, would not, I am persuaded, ever suffer by ordinary droughts.—Like a sponge, it would absorb a vast quantity of rain-water, and become a reservoir to supply the wants of that and of all other plants. Nothing is more common in a dry summer, than the rolling of the leaves of corn; and that circumstance is often mentioned as

an evidence of the severity of the drought. This rolling of the leaves of Indian corn, is the consequence, in part, of scant manuring, but still more of shallow ploughing. Few, perhaps are aware of the depth to which the roots of plants will penetrate in a deeply loosened earth. A gentleman,* much inclined to agricultural inquiries and observations, informed me, near fifty years ago, that seeing some men digging a well in a hollow place, planted with Indian corn, then at its full growth, he stopped to examine how far its roots had descended; and he traced them to the depth of nine feet. The soil was an accumulation of rich earth, which had run or been thrown into the hollow.

The seed of the common turnip, sown in warm weather, and on a soil sufficiently moist, I have known to vegetate in about eight-and-forty hours; and in only four or five days afterwards, I found the plants had sent down roots to the depth of four or five inches.

I have often noticed forest trees blown down by violent winds, whose roots, of the same species, were very differently formed. Such as had grown in grounds having a hard, impenetrable pan of clayey gravel, at the depth of twelve or eighteen inches from the surface, exhibited a flat mass of roots; while others, torn up from a deep loam, or loamy gravel, showed downward roots of several feet in length.

About five months ago, I received from England a pamphlet, written by one of the most distinguished agricultural writers in that country—Arthur Young. It was a lecture read, a few years before, to the British Board of Agriculture, of which Mr. Young was the Secretary. Its title is, "On the Husbandry of Three Celebrated British Farmers, Messrs. Bakewell, Arbuthnot, and Duckett,"—all eminent for genius, enterprise, application, and long experience. It was to do honour to their memories, "and to bring to recollection the means by which those celebrated practitioners, in the first and most important of all arts, carried their agriculture to a perfection unknown before," that the lecture was written and published.—And this, Mr. Young observes, would be more peculiarly useful, because those men, "confining themselves to practice alone, had left no register of their own meritorious deeds." I will present to you the substance of the information contained in this pamphlet, as in itself very important, and because the practice of Arbuthnot and Duckett has a direct bearing on the points I am now considering—DEEP PLOUGHING AND MANURING.

"Mr. Duckett had sand, and sandy soils, alone, to deal with; but Arbuthnot's land classed among those harsh, wet, tenacious loams which are usually called clay, and ought to be esteemed such, relative to every circumstance that attaches to difficulty and management." Passing by what Mr. Young says of Arbuthnot's draining operations, I content myself with mentioning the principle of that improvement: "Lay your land dry, whatever may be the method pursued, before you attempt any thing else."

"In respect to tillage, Mr. Arbuthnot carried it to great perfection. he invented a swing plough for a pair of horses, and the general depth of six inches, and a much larger one with wheels, for gaining the depth of twelve, and even of eighteen, for some peculiar crops, especially madder. Upon the advantages of deep ploughing, he never had the least hesitation; but always declared, that in all he had read or heard, he never met with one argument against the practice, that had with him the smallest weight."—"In the essential operation of ploughing, he considered one earth [that is, one ploughing] well timed, and of a right

* Peter Oliver, Esq. then a Judge of the Superior Court of Massachusetts.

depth, as being much more efficacious than that repetition of tillage so common in every district.

A judicious rotation, or round of crops, has long been considered, in England, essential to good husbandry: and so it is by skilful farmers in our own country; particularly in the middle states, where clover, so highly important in the rotation, has, for more than thirty years, been rendered wonderfully productive, by the application of plaster of Paris.—The most usual course in England has been (excepting on stiff clayey soils) first year turnips, manured and kept clean by hoeing; the second year barley, with clover seed; the third year the clover mown for hay; and its second crop, at wheat seed time, ploughed in, and, where necessary to fill the seams, the ground harrowed, the wheat sown, and then harrowed in. This is called "wheat upon a clover lay."—But by the long and frequent repetition of clover, (that is, once in four years) in their rotations, lands in England became (as they express it) "sick of clover;" and I have been informed that some lands in our middle states, long subjected to the like application of clover, exhibit like symptoms of disease or failure. But Mr. Arbuthnot introduced clover once in three years, without suffering by such more frequent repetition. "He attributed the failure of this plant to shallow and ill-executed ploughing; the result (says Mr. Young) justified his opinion."

Mr. Young mentions a lecture he had read to the Board of Agriculture, "on the means by which a farm can be made, by a right proportion of all the products, to support itself, without foreign assistance, in a state of high fertility, a question depending on the quantity or weight of dung resulting from the consumption in litter of a given weight of straw." This lecture I have not seen. But he considers the question as successfully decided, in Mr. Arbuthnot's practice, in the following manner: 134 sheep and 3 lambs were turnip fed, in a pen on a headland, well littered with straw: in six weeks they required nearly six tons of straw [to give them clean and comfortable beds:] and in that time made 40 tons of dung, equal to that brought from London [stable dung it is to be presumed.] So every ton of litter produced near seven tons of dung.—But this weight must have been obtained chiefly by the earth of the headland absorbing the urine, of which, when fed on turnips, sheep make great quantities, and being finally mixed with their dung and litter. This recital reminds me of the recommendation, in my address to this Society in May 1818, to carry earth into the barn yard, once in every two weeks, from Spring to Autumn; adding to every layer of earth a coat of litter. I should then have advised a plentiful spreading of litter, had I not known that our course of husbandry in Essex yielded very little straw.

In the same communication to the Society, I presented my ideas on the proper application of manure; to wit, *always to bury it up quickly, when carried to the field, to prevent great loss by its exposure to the sun and air; remarking, that the essence of manure was lost, not by sinking into the earth below the roots of cultivated plants, but by rising into the atmosphere, and so fleeing away.* Here, also, I have the satisfaction of seeing the theory I had formed nineteen

† The repetition of tillage here reprobated, refers, I presume, to the numerous ploughings given by many English farmers, at that period, preparatory to the putting in of their crops; which the single, deep, and "efficacious" ploughing of Arbuthnot rendered unnecessary.—Were our ploughing for Indian Corn and Root crops alike deep and efficacious, before planting, shallow tillage (called horse-hoeing) with light ploughs, during their growth, would suffice.

Years ago (in the manner suggested in that communication) supported by the opinions and practices of such eminent agriculturists as Messrs. Arbuthnot and Duckett. After noticing Arbuthnot's cultivation of madder, an article requiring a rich soil and extremely deep tillage, Mr. Young says—"there was one circumstance in his management, which, being applicable to more important articles, merits a more durable attention: this is, the depth to which he ploughed in the dung: his tillage went to that of eighteen inches; and he conceived there was no danger of losing, by this circumstance, either vegetable or animal manures, as their tendency, contrary to all fossil ones, was not to sink, but to rise in the atmosphere." Fossil manures are lime, marl, plaster of Paris, and other substances dug out of the earth, which increase the productive powers of soils.

Mr. Duckett's manner of applying dung, although his was a sand farm, was similar to Mr. Arbuthnot's. "Immediately connected with the depth of tillage, is that to which dung may be safely deposited. He [Mr. Duckett] had not the least apprehension of losing it by deep ploughing; but freely turned it down to two or three times the depth common among his neighbours." Yet Mr. Young says, that farmers (and good farmers too) persist in a contrary practice. But he adds—"Enlightened individuals, thinly scattered, know better; having convinced themselves that Mr. Duckett's practice is not only safe, but beneficial;" and then names one who "ploughs in his dung as deeply as his ploughs can go, turning it in nine inches, and would bury it twelve, did he stir to such a depth."

Confirmatory of the correctness of the practice of these two celebrated English farmers, is the fact stated by Sir John Sinclair, President of the British Board of Agriculture, in his account of the Improved Scottish Husbandry. He mentions one farmer who ridged his carrot ground, and buried the manure sixteen or seventeen inches deep, the ridges thirty inches wide. The farmer preferred, as a manure, a well prepared compost of peat-moss* and dung, ten tons, or double cart loads, per English acre. "The dung (or compost) being at the bottom, makes the tap root of the carrot push immediately down, and swell to an enormous size; the roots being often sixteen inches in girth, and 18 or 20 inches in length."

To return to Mr. Duckett. His deep ploughing (says Mr. Young) was not practised above once in two or three years, and the successive tillage shallow.—"By such deep ploughing, seldom given, Mr. Duckett conceived that a due degree of moisture was preserved in his light land, by means of which his crops were flourishing in seasons of drought which destroyed those of his neighbours: and no one could more severely condemn the ideas which governed the Norfolk farmers, in leaving what they called their pan unbroken at the depth only of four or five inches. The operation of ploughing he thought could scarcely be given too seldom, provided when given it was done effectively: and he always carried this paucity of tillage as far as circumstances would permit: thus I have known him put in seven crops with only four ploughings." In another part of his lecture, Mr. Young says—"If I were to name the circumstance which more than any other governed his (Mr. Duckett's) practice, I should say that the whole was founded in trench ploughing; and that the principle which governed this practice (a principle thoroughly impressed upon his mind as well as on the minds of those who draw intelligent conclusions) was that of giving as little tillage as possible to sandy soils."

"The next circumstance which I shall advert to (says Mr. Young) in the husbandry of Mr. Duckett, is the use of long, fresh dung, instead of that which in common management is turned and mixed until it becomes rotten: and in justice to his memory, I shall read the short recital of his practice, as I printed it three-and-twenty years ago. "Dependent on the Trench-Plough,§ is Mr. Duckett's system of dunging.

* In Scotland, their peat lands are called peat-mosses.

§ The Trench-Plough of Mr. Duckett's invention was so admirably contrived as completely to bury whatever was intended to be turned in. Mr. Young

He conceives, and I apprehend very justly, that the more dunghills are stirred and turned over, and rotted, the more of their virtue is lost. It is not a question of straw merely wetted; but good long dung he esteems more than that quantity of short dung, which time will convert the former to. Two loads of long may become one of short; but the two are much more valuable than the one. Without the Trenching-plough, however, his opinion would be different. If long dung is ploughed in, in the common manner, with lumps and bundles sticking out at many places along every furrow, which lets the sun and air into the rest that seems covered, he thinks, so used, it is mostly lost, or given to the winds: in such a case, short rotted manure will be better covered, and should be preferred. But with his plough nothing of this happens; and it enables him to use his dung in such a state as gives him a large quantity instead of a small one. The good sense of these observations must be obvious at the first blush." Mr. Young, adds—"The uses of FRESH instead of ROTTEN dung, is, in my opinion, one of the greatest agricultural discoveries that has been made in the present age." He then states a striking experiment made by himself—67 small cart loads of fresh yard dung produced two successive crops of potatoes, yielding together 742 bushels: at the same time, the same quantity of yard dung, after six months rotting, yielded 708 bushels, leaving [to the fresh long dung] a superiority of 34 bushels. But had the fresh dung been kept as long as the other, it would have required at least twice, perhaps thrice as much, to have produced the quantity used." [That is, twice or three times 67 loads of fresh long dung, if kept and often turned and mixed to produce fermentation and rotting, would have shrunk, or been reduced, to 67 loads of short rotten dung.] "If the crops therefore had been only equal, still the advantage [of the fresh dung] would have been most decisive."

"I shall not quit (says Mr. Young) the Husbandry of two men who carried tillage on soils is extremely different, to its utmost perfection, without remarking the circumstances in which they agreed. Both were equal friends to deep ploughing; both rejected the common repetition of tillage, and reduced the number of their operations to a degree that merits attention; both rejected fallows; and both ploughed deeply for depositing manure, without any apprehension of losing it. These are very important points in Practical Agriculture."

To this account of the successful practices of these two celebrated English Farmers, it may be useful to subjoin a few observations. I have thought it proper so far to present them in detail, in order to develop principles: not expecting a precise adoption of their practices; which, indeed, without their or similar superior ploughs and other implements, would be impracticable: but with such instruments as we possess or may easily obtain, we can materially increase the depth of our ploughing, and I hope contrive effectually to cover our manure. This should be wholly applied to Tillage Crops; for which the manuring should be so ample as to insure a succession of good crops through the whole rotation, without the aid of any additional manure, especially for wheat, rye, barley or oats: for besides increasing the seeds of weeds (with which all our lands are too much infested) such additional manuring, immediately applied to the small grain crops, renders them more liable to injury from mildews. Of this I am fully satisfied, as well from numerous statements of facts which I have seen in books of husbandry, as from the circumstances under which remarkable mildews have otherwise been noticed. One of our countrymen, who wrote a short essay on the subject prior to the American Revolution, has given the only solution of the causes of mildews that has ever appeared satisfactory to me:

He says he saw him turn down a crop of rye, six feet high, so that not an atom was left visible; and yet the depth did not exceed eight inches. Trench-ploughing has sometimes been effected in this country by a second plough following in the same furrow after the first, and going a few inches deeper.

perhaps at some future time I may find leisure to show the correspondence of facts with his principles.]
(To be continued.)

[This essay, subscribed "A New England-Man," is published in the second volume of the Memoirs of the Philadelphia Society of Agriculture.

FOR THE AMERICAN FARMER.

FURTHER TRANSACTIONS OF THE AGRICULTURAL SOCIETY OF NEW CASTLE COUNTY, DELAWARE.

On the Cultivation of Potatoes.

Communicated to the Agricultural Society of the County of New Castle, at a stated meeting held at the Court-House in the town of New Castle, February 20th, 1820, and read to the Society by Thomas Mendenhall, a member.

MR. PRESIDENT,

SIR,—The plan which I adopted last year, for raising potatoes, succeeded so well, that I think it would not be consistent with that spirit of liberality which we profess to cultivate, was I to withhold the knowledge of it from the Society.

On the 28th of May, I began to prepare an acre of ground for late potatoes, the land thin, and the highest on the farm; we hauled 30 horse-cart loads of coarse manure, spread it even on the ground, and ploughed it down with a pretty deep furrow, harrowed it well, until it became mellow and fine then run out rows with the plough, (by turning a furrow each way,) 3 feet 6 inches apart, the seed potatoes, called the blue skins, being cut, wet, and sprinkled with plaster, the 31st of May began to plant, laying the pieces regularly 12 inches apart, then hauled manure and dunged in the rows on top of the potatoes, at the rate of 24 cart loads to the acre; then with the plough by turning two furrows together, covered them, laying the dirt in a narrow ridge over them; the 2nd of June finished planting, and rolled them with a heavy roller, but this did not entirely level the ground; the ridges made by the plough in covering, still remained higher than the intermediate spaces, and three days after planting, say the 5th of June, harrowed them across the rows with a heavy fallow harrow, this left the ground quite level and loose on top; on the 15th, the potatoes were regularly up, of a good colour, and vigorous appearance, the ground still clean and mellow; nothing more was done until the 30th of June, when we ploughed a furrow to them, and gave them a dressing with the corn rakes, and hoes; the 17th of July, harrowed down the middles with a small 7 tooth harrow, this is all the work the potatoes had, or appeared to require; the vines grew remarkably stout and healthy, but having had no rain which reached their roots since they came up, the young potatoes were but imperfectly formed, and partially set; nor was there a probability of any crop in all July; they continued in much the same state until the rains on the 2nd and 3rd of August, gave them a start; previous to this, however, the vines had arrived at such a state of maturity, that I thought their capacity to produce somewhat doubtful, for though they were in good health, and from 2 to 3 feet high, I was afraid they had too much exhausted themselves, to yield such a crop as might have been expected from their appearance; the result was, nevertheless, that those rains of the 2nd and 3rd of August, and a shower on the 7th, set the potatoes to mending and growing in a most admirable manner; so that with two other showers on the 5th and 7th of September, made a very handsome crop of about 130 bushels of potatoes; though not as many, yet quite as large as could be wished for; I wanted to seed the ground with wheat, and they were lifted between the 10th and 20th of October, and it is proper to remark, that owing to their rapid growth, and not being left a sufficient time in the ground to mature and harden, they are not quite so dry, nor do I expect they will keep as well in the latter part of the season, as those of the preceding year.

I have now to appeal to many of my neighbours, who with equal advantages and more experience, have some

almost, and others entirely failed in raising potatoes in the usual mode last year, whether the process adopted, may not have been the only cause of my success.

FOR THE AMERICAN FARMER.

No. I.

THE ORIGIN OF THE

COTTON CULTURE

OF THE UNITED STATES,

As a Planter's Crop, and the employment of that production in Foreign Commerce, Domestic Trade, and Manufactures.

It is a fact, well authenticated to the writer of this paper, that the cultivation of cotton, *on the garden scale—though not at all as a planter's crop*,—was intimately known and familiarly practised, even among the children of the white and black families, in the vicinity of *Easton* in the county of Talbot, on the Eastern Shore of Chesapeake Bay, so early as the year 1736.—That village was then unbuilt, there being only a court-house with a few other suitable buildings for the accommodation of that respectable agricultural county. This fact in regard to cotton, was known in Philadelphia, through the family of the first Trench Frances, Esquire, who was one of the commissioners of the Maryland proprietary in the treaty of boundary with the descendants of William Penn, the proprietaries of Pennsylvania. After that settlement, Mr. Frances was induced by Governor Penn, to move to Philadelphia, where he was appointed to the office of Attorney General. One of his daughters, who left Talbot in her eighth year, married about 1748, and among many matters of useful domestic instruction to her children, distinctly mentioned her own cultivation of cotton in Maryland at her early age, so easy and familiar was the garden practice. This fact laid unused or little considered till the year 1786, in the mind of one of her sons, the writer of this paper. At that time difficulties like the present, (but not so great in the middle and northern states,* as the recent indulgences in credit and enterprises, and the excessive quantity of tonnage have principally produced) distressed our seaport towns. It was considered, that agriculture could not afford direct relief to those, who resided and remained in the towns, and that commerce, the principal subject of the oppression of the times, was the object to be aided, and could give the relief of its own diseases required. It followed, from the consideration of the whole national industry, that a principal hope of relief was to be derived from *American manufactures*. The writer was on a committee of citizens, upon the ways and means of relieving the distresses of the times. In the exertions of his faculties and considering the facts in his mind in relation to the internal economy of our country, the capacity to produce cotton in so high a latitude as that of Talbot, came up with a decided conviction, that it was so entirely a matter of climate, that our capacity to produce cotton crops appeared to be a subject of increasing expectation and confidence, as we extended south, through lower Maryland, Virginia, the Carolinas, and Georgia, to our boundary on St. Mary's river, and the 31st degree of north latitude. Among other means, the opportunity to examine this opinion was used at the convention at Annapolis, of 1786. The late president *Mulison*, (as was the writer of this paper for Pennsylvania) a member of that body for Virginia. His ample opportunities in a state south of Maryland, his natural strength of mind, and habitual observation, reflection and correctness, with distinguished public spirit, occasioned a full exposition of facts, impressions, and expectations to his consideration in an unreserved conversation.† The result was, the decided admission by Mr. Madison, that from the garden practice in Tal-

bot, and the circumstances of the same kind, abounding in Virginia, there was no reason to doubt, that the United States would one day become "a great cotton producing country." The agitation of the subject, was commenced in the public prints of Philadelphia, and in the periodical works. Our promising capacity was noticed in a discourse read before "The Society for Political Inquiries," and in another before a new manufacturing society at Philadelphia, of the year 1787; which were, by both bodies, ordered to be published. The most promising circumstance attending cotton, was its faculty to be *carded*, and *spun*, by water machinery, and as was imperfectly done, *wove* also by the same means. A mission to Great Britain to obtain the machinery, under a contract existing, and at the expense of the writer was adopted. *Certainty and detailed information* were obtained by the expensive prosecution of this and other means, and it became known, that as we could produce cotton to supply ourselves and the world, so we could *card* and *spin* it, (with a reasonable hope of *weaving* also) by water machinery. The most early and decided encouragement, as to the practicability of raising cotton crops, was first received in a letter from—Leake, Esquire, of Georgia, to General Thomas Proctor of Philadelphia, communicated by Governor or President Thomas Mifflin of Philadelphia, who was, ex-officio, patron of the society. An extract from the original, will be given. The capacity to produce cotton worth four ninths of a dollar, or 2 shillings sterling, in Philadelphia, in 1787, sometime after appeared in a quantity equal to our then limited home consumption. The first reformation of our tariff produced a duty on foreign cotton of three cents, per pound; Congress being convinced we could raise enough. Small societies and some private persons, established imperfect labour saving machinery before 1792. Cotton soon after began to be exported so as to attract consideration in 1798 and 1799.‡ But it was found, that we could raise more cotton than we could pick and separate by hand from the seed.—Rollers, or cotton gins, were imported or invented.—In a short time the invaluable water mill to gin, pick, or separate cotton from the seed, was invented by Mr. Ely Whitney, a native of Massachusetts, now of Connecticut. This machine working ordinarily and with facility, so as to save the labour of three thousand persons in one day, by the exertions of three persons, set loose the power of the country to produce cotton-wool, which was before restrained by the incapacity to separate it from the seeds. The rapidity of treading out wheat, in the manner of Maryland, instead of the slow, though more nice and perfect mode by the flail in Pennsylvania, gives but a remote comparison of advantage, in the use of Whitney's Water Cotton Saw Gin, in lieu of the fingers and thumbs of labourers, their wives and their capable children. These two facts; First, the *advantage* to the capacity of our southern country to produce cotton: and, Secondly, the invention of the *water saw-gin*, have effected the greatest, and most enriching change in the agriculture of our country, ever experienced by any people, ancient or modern, and the inventions, principally in England, but partly in America, of twelve or thirteen valuable labour-saving machines, and processes to pick, open, card, rove, spin, double, twist, wind, weave, die, print, bleach, and dress cotton, in manufactures, which have

manufacture of cotton, was submitted to him in the spring of that year, in manuscript, and afterwards was sent to him in print, and produced the letter from which the following is an extract:

"MONTPELIER, Nov. 14, 1817.

"I shall communicate the contents of your memoir, as I find favourable opportunities. I well remember the conversation, to which it refers, and have occasionally mentioned it in justice to your patriotic forecast. For myself, I had no merit unless it be the comparative one, of not slighting useful truths because they were new, &c. &c.

"TENCH COXE, Esquire.

"Philadelphia."

‡ See copies of both papers, Cary's Museum, page 248, vol. 2, &c.—And Coxe's view of the United States, compiled in 1794, chapters 2 and 3, pages 4 and 34.

§ See the tables of Pitkin, and Seybort, exports of cotton.

been most curiously perfected within the last ten years, have given a stability, utility, extension, and aggregate value to the cotton crops of the United States, which cannot be equalled by any other production, in exportable surplus, or for home manufacture, and favoured, the whole industry of this country in all its branches, and in every section, as may be clearly demonstrated.

COLUMBIANUS.

More of the Italian Clover.

TO THE EDITOR OF THE AMERICAN FARMER.
Monticello, May 16, 1820.

SIR—I am not able to give you any certain information of the Lupinella. Mr. Appleton, our Consul at Leghorn, sent me some of the seed; but, done at length with these things, and more disposed to retire from old cares than to undertake new ones, I put it into younger hands for trial, I saw, in one instance, the young plants just up, and leafed, and thought them decisively the Saint foins, already known to us, and so generally cultivated on the borders of the Mediterranean,—never having seen the term Lupinella in any book either of Italian or other husbandry nor even in a dictionary, I suppose it to be the local, and especially the Tuscan name for Saint foins, but this is conjecture only. There is a species of Saint foins, called Sulla, raised abundantly in the Island of Malta, where no rain falls from spring to autumn, and which still yields good crops; it is not so heavily leafed as the other, but is very valuable for countries subject to severe droughts. About the year 1785 or 6, I procured the seed of this from Malta, and sent it to the Agricultural Society of South Carolina; but I believe they found it less advantageous than the Guinea grass, and did not pursue its culture. I salute you with esteem and respect.

THOS. JEFFERSON.

MR. SKINNER.

Boston, 15th May, 1820.

DEAR SIR,—Your letter enclosing a stalk of clover, came safely to hand. But as I do not pretend to any Botanical skill, I submitted the subject to our professor, Bigelow, who is perhaps not excelled, in that branch of science, by any individual in the country. I enclose you his remarks.

If the plant be an "annual," it is perhaps less valuable than you anticipated.

Very respectfully,

I am your obd't. serv't.

JOSIAH QUINCEY.

J. S. SKINNER, Esq.

DEAR SIR,—The clover you sent me this morning, appears to be of the kind denominated Crimson Trefoil, (*trifolium incarnatum* of *Linnaeus*.) It grows in Italy, France, &c. I have a wild specimen from Switzerland.—Doctor Sibthorp, we are told found it abundant on Mount Atlas.

In the *Nouveau Cours D'Agriculture*, it is stated to be the earliest of all kinds of feed—bears drought well, is more acceptable to cattle than the common clover, and its product is twice as large. It is an annual plant, and can

* The Western states were all then unborn; the Louisiana purchase was not accomplished till 1803.

† This subject having grown into great importance in 1817, a memoir on the cultivation, commerce, and

be cut but once. In France, it is sown in the spring to be cut in summer, and in the fall to be cut in spring.

I know little more about it, except that my Swiss specimen is marked "Bon fourrage."

Very sincerely yours,

J. BIGELOW.

Hon. JOSIAH QUINCEY.

See Cours D'Agriculture in the Athenaeum, Vol. 13, page 201, not Trefle incarnat or Du Roussillon.

FOR THE AMERICAN FARMER.

Crimson Trefoil.

Felicity Farm, May 10, 1820.

The stalks of the beautiful plant, received from Doctor Anderson of Chestertown, is from your description of it, the crimson trefoil of Italy. The information which you have had of captain Ballard, giving it the name of Lupinella is erroneous. This plant is an annual, and is cultivated in gardens for its handsome flowers. The Saint-foin, well known in this country, and a favorite grass of the French, is the Lupinella of the Italians.

I have observed your note to my communication, recommending the Cultivation of the Orchard Grass. You ask, "what I mean by thick sowing, a gallon or a bushel?" I consider a bushel of good seed fully sufficient for an acre.

I enclose a drawing of the Trifolium Incarnatum and Saint-foin, from memory.

Yours respectfully,

R.

J. S. SKINNER, Esq.

P. S. I have put the Saint-foin along side of the Crimson Trefoil, to point out to you the difference between the two plants. There is a great difference in the seed (of the two plants). The trefoil is a little larger than the common clover seed. The Saint-foin, Esparatte, or Lupinella, is contained within a husk, (like a bean when shelled)—the covering is prickly, and of a brown colour. I venture to say the seed Doctor Anderson has saved, has no resemblance to the Lupinella seed, brought in by captain Ballard—or that sent into the country by Mr. Appleton, our Consul at Leghorn—who has sent barrels of the Lupinella into the country. The Secretary of the Treasury, (Mr. Crawford,*) has distributed quantities of the seed. Pray with what prospect of success? Be assured, it may answer for the sandy land, on the road to Annapolis—but to sow the Lupinella in good soil, will be useless, and a shameful waste of labour and ground, our blue grass will afford a better cut, giving the Saint-foin a hoe cultivation and letting the other struggle for itself.

*When Secretary of State.

NOTE:

We have compared the seed of the clover imported by Mr Hands, and which to avoid confusion, we continue to call Italian clover, with the seed brought by captain Ballard from Italy, and which he says, is there called Lupinella—and we find them to be entirely unlike. The Italian clover seed resembles very much and is not larger, if so large, as our common

red clover seed. The Lupinella seed, so called by capt. Ballard, is large, rough and prickly; on removing this rough husk with a pen knife, it is found to contain a kidney shaped kernel, much larger and darker coloured than the common clover. On the whole of our present view of the case then, we should say that Lupinella, is the Italian provincial name for that plant which in France is called Saint-foin. We are satisfied that the Lupinella sent to Mr. Crawford, was nothing more than Saint-foin—but in the way of conclusion that Lupinella, and Saint-foin are the same, there is some difficulty—for in the "TREATISE ON AGRICULTURE"—said to have been written by general Armstrong—he says, (see American Farmer, vol. I. page 172.) "The ameliorating quality of the tap rooted plants, is supposed to be in proportion to their natural duration; annual clover, (LUPINELLA) has less of this property than biennial, (Dutch clover) biennial less than Saint-foin; and Saint-foin, less than Lucerne." This is the only work wherein we have been able to find the word Lupinella—and this is all that it there said of it. The reader will perceive that in calling Lupinella an annual clover, the author agrees with the experience of Doctor Anderson, as far as it goes.

This confusion in the names of imported grasses, is less to be wondered at, however, than that which prevails amongst ourselves, as to those which are indigenous or have been a long time cultivated amongst us—for example—if we mistake not, our very intelligent, but unknown correspondent R. confounded Timothy with Herd's grass—and Mr. Pickering speaks of them as the same—and we are told that in New England, either name is given indiscriminately to the same grass—yet there are two grasses cultivated in this neighbourhood, one called Timothy, the other Herd's grass, which are essentially different.

Edu. Am. Far.

FOR THE AMERICAN FARMER.

From a Delaware Correspondent.

In the numbers of your paper, I see several advertisements of seeds for sale, most of which are practically unknown to us. Perhaps many of them would be tried, and I should be glad to see in future advertisements, the prices, with the quantities necessary per acre.

We are situated here so near the bay, that unfortunately, plaster, according to theory, will not act on our lands. Yet, in some cases, I have read that it has had effect in such situations. I should be pleased, if any of your correspondents have knowledge of any such cases, if they would describe the soil, situation as regards salt rivers, and other circumstances on and under which it operated.

In compliance, with the preceding request, in part we offer to our respected correspondent, the following interesting and authentic paper. The facts it discloses are important and valuable—as they go to shew that under certain circumstances, plaster does act with great effect on the margin of Salt Water Rivers—contrary to the general impression, and to experience in some particular cases.

THE FAIR TRIAL AND EFFECTS OF Plaster of Paris, ON THE MARGIN OF A SALT WATER RIVER.

FOR THE AMERICAN FARMER.

Another Proof.

We add another proof to the many, that it is not what is called a saline atmosphere, (if such atmosphere exists at all) nor yet the imme-

diate vicinity of salt waters, surrounding peninsulas of land of inferior extent of surface, to the space occupied by the waters around them, which prevent the complete powerful and beneficial operation of plaster of paris on soil. We are witnesses, and have here given the sanction of our names after a careful, minute and patient, and by some of us repeated examination to the existence of the fact, that plaster of paris has operated so as to add considerably to the growth not only of clover, but of every species of grass and herb, and also by giving a stronger green colour, than possessed by the adjacent herbage on a piece of land, forming a part of the margin of a salt-water creek, two miles from the junction of Jt. Mary's, St. George's and Potomac Rivers, in a peninsula formed by these rivers, which on an average, is not one mile wide. So that if the saline atmosphere could have any effect in preventing its beneficial operation, as has been heretofore imagined, by some—here is a spot of land located under all the circumstances of its influence, and yet without any countervailing effects, to the entire and equal beneficial results produced by plaster in the interior country.

The land on which we witnessed the effect of which we now speak, is the property of Mr. James Hebb, and is about ten strides from the bank of Carthagenia creek, about half a mile from where it falls into St. Mary's River. It is a level, with a small inclination in one half of it to the north; from which half where the level inclines, the rain passes off easily and quickly; the other half is more flat, retentive, and cold. The elevation is about eighteen feet above the level of the water in the creek. The compound of the soil is in both halves throughout nearly the same, being a white oak loam, a good wheat soil about a fourth part clay. The substratum about 12 inches below the surface contains a greater proportion of clay. On the half of this piece of ground, which inclined to the north about 60 strides in length, and containing several corn rows, the effect of the plaster was well defined, easily observable at a distance and might be traced on one side by the furrow, and on the other side by the middle of the corn ridge, shewing a superior growth of the herbage in general, and a striking difference in the deep green colour, than that of the side long herbage. On the other half of this plastered land, of about the same number of strides in length, where the ground had, no inclination, but is quite flat, and by reason of its surface and not of its greater proportion, clay is more tenacious and cold; the plaster appears not to have produced an effect or difference in the growth and colour of the herbage. From the circumstance of plasters operating so beneficially on the half of this land, which has an inclined surface, and not on the other half, which is the same kind of soil, without perceptible difference in any of its proportions and differing only in surface, which causes the water to lay longer on it. It seems reasonable to infer that the unfavourable disposition, which has heretofore been found to exist towards plaster in lands near salt water, arises from the general face, and level of those soils, rather than from any effect produced by the atmosphere. From the head of tide water

on the rivers, which fall into the Chesapeake or the ocean, the land gradually descends, and near the mouths of these rivers, particularly the largest of them, and those which disembogue nearest the ocean, the land presents tables of flat land inclining as they approach the water, or the stream and valleys which lead to it. On these levels, adjacent to salt water, it is that plaster of Paris has often heretofore been found ineffectual, in promoting vegetation. The fact now noticed, and several other instances, in which plaster has acted beneficially on slopes, which within these two or three years have been observed in this part of the country, seem to confirm the opinion that the tenacity of level land, produced by a redundancy of water, is the cause of many failures of plaster to benefit these kind of lands, and induce a confident belief, that where the surface of these salt water river-side lands has sufficient inclination, or can by complete draining, be rendered open and friable, which is easily effected, the lands here in these situations, are as favourable to the operation of plaster of Paris, as any in the interior.

The plaster which has operated as above, was bought in Balt. of Stevenson & —, and was applied the spring of 1819, and we examined the effect in May, 1820. In the same field of Mr. Hebb, there are two other places where he has thrown plaster on the surface, (all on a clover lay following wheat) where the effect is as plainly, and accurately observable as in the one above more particularly described.

JAS. HEBB.
WILL. GUYTHER.
ARCHD. BINNY.
ATHANS. FENWICK.

N. B. The difference in the colour of the herbage, was less after two or three rainy days on the plastered land, and that adjacent though still plain, than it was during the dry weather preceding. May not the summer be a better season to sow plaster than the spring?

TO CORRESPONDENTS.

[We can see no reason, on reflection, to relinquish the desire, which we have before expressed, that those who favour this journal with their thoughts or experience in the affairs of which it treats, would sign their real names to their communications, especially when they give facts or go into details. It cannot fail to increase the public confidence in what is stated; but we cannot so well convey our own impressions in any other way, as by the following suggestions from Doctor Jones, of North Carolina.]

Raleigh, March 20th, 1820.

DEAR SIR,—I beg leave to suggest two hints, which I think of some importance to the usefulness of your Journal:—One is, that correspondents should give their real names with their communications; and the other is, that you should along with your index to the first volume, or subsequently in the body of the work, publish a list of the names of your subscribers.*

A real name is necessary to give authority to facts stated, and what is more, the mind of the reader is fixed upon the essay, and goes along

* This will probably be done at the end of the second volume.

Edit. Am. Far.

with the subject, if the writer has a local habitation and a name, an advantage which an anonymous publication can never possess. Writers on agriculture, medicine, &c. are not subjected to the critical ordeal that awaits political wranglers, and poets. Respect invariably attends them. Even the want of polish in the language of agricultural essays, often gains them additional respect from the probability, that the hand which now wields the pen is more frequently employed in guiding the plough.

A writer always wishes to know whom he is addressing. What may be suited to readers in one place, would be improper in another. For instance; I wish to give my thoughts to a southern public on road laws, and the construction of roads. A northern audience would not listen to me with patience upon a subject, which the state of improvement among them has deprived of interest; and I do not know, that I should find southern readers enough to justify the intrusion. A list of subscribers seems, therefore, necessary.

You may publish, observe, or neglect these hints as you think proper, being assured in either case of the good wishes and continued regard of

CALVIN JONES.

J. S. SKINNER, Esq.

To Make a Cement,

That will set under water, and, in a few years, become harder than stone.

Lime stone, of a deep blue colour, is to be procured, and pit coal to burn it with, in the common manner.

When the lime is withdrawn from the kiln, the coal ashes are taken out with it, and all the sizeable pieces of lime being picked out, there remain the coal ashes, mixed with about 1-4th its weight in lime dust.

About a bushel of these materials is put into any suitable vessel, sprinkled with water just sufficient to slack the lime. Another bushel is then heated in the same way, and so on until the vessel is filled. In this state it can be kept for any length of time in a moist place, protected from frost and sun.

A strong open trough, containing about two cubic feet, is two thirds filled with the cement in the above state; and with a small iron pestle suspended at the end of an elastic pole, is well beaten for about half an hour. At the end of this time it becomes of the consistence of soft mortar, and is then laid in the shade, from three to six days, according to the dryness of the air. When sufficiently dry, it is again beaten half an hour as before, and the oftener it is beaten the better will be the cement: ten times, however, are in general sufficient to reduce it to the consistence of a smooth uniform paste. After this period, it is apt to become refractory on account of the evaporation, as no more water is to enter the composition of the cement than what was at first employed to slack the lime.

Thus prepared, it is to be used as common mortar; and is found to possess the singular advantage of uniting, in a few minutes, so firmly to the bricks or stone, that still water may be immediately let in upon the work without any inconvenience; and, by keeping it dry

for a single day, it has afterwards nothing to fear from the most rapid current.

RECEIPT TO MAKE YEAST.

Three gallons water, two quarts loose hops, boiled together about three hours in brass or bell metal;—strain then off from hops, and at once stir in a quart of flour. When cool stir in a pint of good yeast, and a half pound brown sugar, to remain open in a piggin or jar 15 or 20 hours, and to be stirred often.—Put it then in stone jugs about three-fourths full, cork them well, and place them in a cool situation.—Your jugs ought to be of such a size as only to contain yeast for the usual quantity of bread baked at a time. One gill of yeast is sufficient for a common sized loaf of bread, that is made from a plate full of flour.

FOR PRESERVING EGGS.

In March put about half a pound of quick lime in a stone or earthen pot, and add a gallon of cold water;—next day fill the pot with new eggs, tie a paper over it, and put the pot in a cool place.—The eggs will be found perfectly good after being kept a year.

It is quite necessary to keep lime in the walks of your hens, as it causes their laying eggs throughout the winter.

FOR THE AMERICAN FARMER.

Farmers & Planter's Oils.

This valuable and useful list of profitable fabrications of the cultivators of the United States, merits a much greater share of attention than has been hitherto given to them. They are both animal and vegetable. The following are the names and descriptions of those, which occur to present recollection.

1. Flaxseed oil, expressed by a water or horse mill.
2. Rapeseed, ditto.
3. Oil of olives, worth to France 75,000,000 livres per annum.
4. Oil of Sunflowers, which may be expressed as above.
5. Oil of Sessamum orientale, or *Benny*, which is produced and made into oil in South Carolina, from seed, brought from Africa. It grows in Hindoostan. The oil is fine for salad, and used after pressing, to boil with vegetables, and for cattle. See Doctor J. Mease's account of it in his Archives.
6. Butter.
7. Cheese.
8. The lard of Hogs.
9. Tallow.
10. Suet.
11. Common offal and house fat.
12. Bees' wax, yellow and bleached.
13. Myrtle wax.
14. Neat's foot oil.
15. Castor oil.
16. Cotton seed oil.

Families and artists, and amateurs in the arts, who are in the practice of making, prepar-

ing, managing, or producing any of these oils in a new or improved manner, would promote the comfort and wealth of the country by their communications. The single object of vegetable oils (before they were made into soap, &c.) in France, in 1789, was worth more than all our surplus productions which were exported in that year. It has been observed, that milch cows fatten, grow soft in their coats, and yield rich milk, when helped by cotton seed. The oil therein is the principal cause. A machine to take off the black shell or skin of the cotton seed, would be an invention of use in the manufacture of its oil. The hominy and firmity mortar and pestle might be tried, wetting the cotton seed as we moisten Indian corn, and wheat before the operation of skinning.

FOR THE AMERICAN FARMER.

THE PREPARATION OF FIRMITY.

The consumption of our crops, the health of our people, the facility of general comfort, and the substitution of vegetable food for a part of our animal food, are all involved in the more general use of that ancient aliment, called *Firmity*. It is made of *Wheat*. To some constitutions, it is more favourable than barley or rice, or leavened, or unleavened bread. The object of this paper is to draw forth from some family of *good livers*, a publication of the whole process of making *Firmity*. It should point out the most suitable kind of wheat, whether it should be white or red, summer or winter wheat; whether old and dry grain or new, undried or unhardened; what is the shape, length and diameter of the wooden *firmity* mortar: what its excavations at each end, in width at top and bottom, their form, and method of making out: how bound with iron, and in what parts or places; how seasoned, as wood; how preserved; what the kind, form, and materials of the pestles, wooden or iron, common and best; how heavy; how long; how used; in what quantity the wheat should be put into the mortar, and whether wet or dry; if dry, when and how to be wet at first, and from time to time; how to be beaten or pounded, and how long; how ridden of its coat or chaff, or hull or skin; how sifted; the form, size, kind and materials of the sieve; the manner of preserving the *skinned* or *hulled* wheat; how long it will keep; in what fit places; how much of this wheat should be put in for a mess for a family of some *specified* number of persons, young and adult: how and in what mode it should be boiled as a *first preparation* of it; how long; in what quantity of water to a quart of hulled wheat; by what heat or strength of fire; after the preparatory boiling, in what one or more forms it is to be prepared; with what additions of water, milk, sugar, &c.; with cold milk or hot milk, frying, &c.; what are its effects and characters as food or diet, in hot weather or cold; in the sickness and health of the consumers; the worth of the hulled, skinned, cleaned, and sifted wheat, freed of its husk or hull, and common wheat threshed and fanned of its chaff and dust.

The directions should be prepared for towns, counties, and states, which have not and know not the *hominy* mortar. It is plain, that the directions for such places, will also serve those, who have and use the *hominy* mortar and pestle. Even the improvement of the *hominy* mortar is an object of importance. In these times of skill, the improvement of every thing is made by art or science; and we know, that there is reason even in the roasting of eggs! What would prevent an *Oliver Evans* making out a miller's machinery for preparing wheat for *firmity*, and Indian corn for *hominy*, to be dried, in or out of a kiln, put up in half barrels, and sent like rice for sale to Baltimore, Philadelphia, New York, or Washington. In the mean time such a direction, as to the *means* and *mode* of preparing, and cooking *firmity*, from the common state of clean, proper wheat, to the soup dish or tureen, would be highly acceptable, to good domestic economists. Let it be remembered, in these times, when economy is one of the best orders of the day, that to save 20 per cent. upon our whole personal or family expenses, is an immense thing in its result.—If our nine millions of people spend 60 dollars per head in all things, on a medium, our total expenses are 540 millions of dollars, per annum; and 20 per cent. of this *saved*, would be 108 millions of dollars, which would purchase all the balances of the federal and state debts; and is more than five times as great as the whole sum of specie, (at the highest estimate,) which we ever had in the United States.

TO THE EDITOR OF THE AMERICAN FARMER.

Sussex County, Virg. May 17, 1820.

MR. SKINNER—

SIR—Reading some remarks in the American Farmer, vol. 1, page 286 and 287, on the effects of Hemlock, (*Cicuta Maculata*) brought to my mind the following case. If you think it worthy publishing you can do so.

In the month of March, 1817, about nine o'clock P. M. I received a note from a friend requesting me to visit a servant of his, who he suspected was poisoned; on arriving he related the following particulars:—

"On that day some hands were sent to work on a piece of meadow land, on which the year before, he had some celery plants set; about 2 o'clock, this man (25 years of age) dug up some roots which he supposed were the remains of the celery, and ate heartily of them, giving some to another man working with him, of which the latter ate a little. About dark he was found lying on the ground in convulsions; and that the fits had continued until this time (11 o'clock,) he had been bled and taken six grains of emetic tartar, without producing any effect."

On entering the house where the man was, I found him supported in the arms of another, to keep him from being suffocated with phlegm, which was constantly discharging from his nose and mouth—his pulse very tense and irregular—his eyes wide open and the pupils much dilated—the convulsions somewhat abated in force though not in frequency.

Believing it a case beyond the power of medi-

cine, remedies were given with but little regard to accuracy as to quantity.

He has again bled, but being anxious to make use of some stronger emetic, the arm was not tied up, or any notice taken of the quantity of blood lost. He was then given about twenty grains of sulphat of zine, which produced no effect. He was then given fifteen or twenty grains of sulphat of copper—this likewise produced no effect—several other remedies were made use of, but without producing the slightest effect to throw off the offending matter. Every remedy had now been made use of, which I believed could produce a good effect; and death seemed rapidly approaching.

Turning to quit the distressing scene, I observed a pot of boiling water on the fire, the idea immediately occurred, if a translation of excitement could be produced, to a less vital part than the stomach, an advantage might be gained thereby. This idea was no sooner conceived, than I determined to make trial of the boiling water on the skin; his clothes were accordingly taken off, and the hot water poured over the region of the stomach until the cuticle was taken off, of a space about twelve inches square. This application produced a little voluntary writhing of the body, but no other mark of sensation at the moment. In about ten minutes the respiration became more free, and at the end of twenty minutes the convulsions subsided and he made a voluntary effort to turn on his face, in which he was assisted. Believing the water had taken the desired effect, several large blisters were put on the extremities; he lay in a comatose state the balance of the night.

The next morning I found him labouring under considerable stupor, and great debility; I gave some castor oil to carry off the offending matter, and directed mucilaginous drink given through the day. On the third or fourth day, he was taken with a violent cough, of which he was relieved in a few days by the common remedies, and is at this time a healthy man.

The man that had taken but little of the root, was soon relieved by the emetic tartar.

I have since that time examined the meadow and found large quantities of the *Cicuta Maculata* growing there, which leaves but little doubt of its being that, by which he was poisoned.

I am, sir, yours, respectfully,
WILLIAM J. COCKE.

Occasional Extracts to the EDITOR.

A BRILLIANT STAR.

"Pray use your best industry, to give us through the medium of your paper, the name and history of the splendid star, which is so conspicuous in the west—sets nearly N. W."

ANSWER.

That resplendent Star which now appears in the west, during the evening, and sets about forty-five minutes past ten, is Venus, *Hesperus*, or the Evening Star. It is the second planet in the solar system, reckoning from the sun, and is nearly nine-sixty millions of miles from that luminary: its diameter is 7640 miles; it

revolves round its axis in 23 hours and 20 minutes, and completes its revolution around the sun in 225 days. As the earth is travelling in the same direction so as to complete its annual circuit in 365½ days—it happens that Venus does not return to the same situation in the Heavens, as seen from the earth, till the end of 583 days or one year, seven months, and twelve days. It will therefore have the same situation about the end of the year 1821, that it has at present. It is now at its greatest Eastern elongation, or distance from the sun (48°) and will appear to come nearer him every evening, until the beginning of August, when it will be in conjunction. Passing then to the west of the sun it will rise in the morning before him, and be *Phosphorus*, or the Morning Star. Since Venus like all the other planets, shine only by the reflected light of the sun, and as it passes between the sun and the earth, it exhibits all the phases of the moon, when observed through a telescope: at present it has the appearance of the moon at the beginning of her second quarter.—About the end of this month, Venus will be in the position when her light to the earth, is the greatest possible, and by, a good eye, in a clear day, may then be seen when the sun is shining.

Further extracts from an approved English work on the management of horses and the treatment of the diseases, continued from page 336, vol. I. Am. Farmer.

CHILL or founder. This is a term not to be found I believe in any book of veterinary medicine or farriery, though often used by grooms and farriers. It is a disease of importance; and has been often injudiciously treated, from a mistaken notion, that if a horse has been chilled, he must of course require medicines of a stimulating or heating nature. This disease appears to resemble the acute rheumatism of the human body, and is perhaps precisely of the same nature. It is either general or local, and always accompanied with more or less of fever. When a horse has been heated by violent exercise, or fatigued by a long journey, and in this state plunged into a river (a very common practice among post-boys, or tied up in a current of air and washed with cold water, or suffered to stand in cold wind or rain, he will be found after being in the stable a few hours almost incapable of moving, and sometimes it is with great difficulty that he is led out for examination. The breathing is generally quickened, which may be seen by the flanks and nostrils: the pulse is often very quick, and the membranes of the eye unusually red. Sometimes the foreparts only are affected, at others the muscles of the loins and hind legs, and sometimes it appears to be confined to the fore feet; this last is generally produced by very severe and cruelly unfair travelling or hunting and cooling the feet suddenly. And in some instances the inflammation has been so violent, that suppuration has followed, and the hoof has separated from the sensible foot. (See Foot.) In that severe kind of Chill first described, bleed to the extent of five or six quarts, and unless the bowels are open or loose, give a mild

dose of physic. The blood which has been drawn, when coagulated, will be found to have a thick coat of buff or size on it; from this appearance we may be assured, that if the pulse does not become slower, the breathing more easy, and the eye less red in a few hours, the bleeding ought to be repeated. When the muscles of the loins are affected, a fresh sheep's or lamb's skin should be placed on them, the flesh side under. In the partial chill the same treatment is proper though it may not be found necessary to carry the bleeding so far as in the former case. When the foot alone is affected, bleeding and purging are proper; and in every degree of chill it is advisable to take off the fore shoes, pare the soles, and wrap up the feet in large bran poultices for the purpose of keeping them moist. The last case of general chill that came under my care was of a very severe kind, and considered highly dangerous; one gallon of blood had been taken off two hours before I saw the horse; five quarts more were then taken; as the symptoms had not abated above four or five hours afterward, two quarts more were drawn, which caused faintness; no physic was given, as the bowels were open, but a ball of one ounce of nitre, one dram and a half of camphor. A lamb's skin was thrown over the loins. The next morning the horse was considerably better, and recovered contrary to the expectation of the proprietor. I forgot to notice, that the fore shoes were taken off and the feet poulticed; the soles however were not pared, because they were already too thin. For some further observations on chill of the fore feet, see *inflammation of the foot*.

CHRONIC. A term used to denote a disease of long continuance, unaccompanied by fever or inflammation. It is employed in contradistinction to the term *acute*, which implies a sharp inflammatory disease of rapid progress, which, if improperly managed, either terminates in death or some chronic distemper; but when judiciously treated ends in a perfect recovery. Thus inflammation of the lungs and fever are acute diseases, broken wind is a chronic complaint.

CHYLE. The nutritious or essential parts of the food, separated from the mass by digestion, and absorbed by certain vessels named Lacteals, the mouths of which cover the inside of the small intestines; by these vessels the chyle is conveyed to the thoracic duct, whence it passes into a large vein near the heart.

CLOTHING. A very pernicious custom too generally obtains among grooms, of keeping horses constantly clothed in the stable, making no difference in the warmth of the clothes whatever the season of the year or state of the weather may be. In a good stable it is probable that, even in winter, it may advantageously be dispensed with; as the horse will be much less liable to take cold when he happens to stand still in a cold easterly wind or rain, which must often be the case with hunters. but when he has been long accustomed to such clothing, there would be danger in a sudden change. When a horse is moulting, or shedding his coat, clothing is certainly useful; and then he requires the greatest care when taken out of the

stable for exercise or work. In summer the only use of clothing is to protect him from flies and dust, and for this purpose a thin sheet of calico is quite sufficient.

CLYSTERS or GLYSTERS. A liquid preparation forced into the horses bowels by means of a pewter tube, with a bladder tied at one of its ends. Large syringes are sometimes used for this purpose, but a bladder and pipe are by far the best contrivance. The tube should not be less than a foot in length, and perfectly smooth. The bladder should be large enough to contain five or six quarts.

Clysters are of three kinds, opening, anodyne, and nourishing. For the first purpose take a gallon of warm water, with from half a pound to a pound of common salt, dissolved in it, to which add four or five ounces of olive or linseed oil for the second, take two drachms of solid opium; dissolve them, or rather mix them well with about a half a pint of warm water and add from a quart to three pints of fine oatmeal or wheat flour gruel. For the third purpose, rich broths, wheat flour gruel, and other nourishing fluids are recommended. With respect to the first kind of clyster, it may be observed that gruel is commonly preferred to warm water; but according to my experience the latter does just as well as the former. As to the second, tincture of opium may be substituted for solid opium, and is by some preferred to it, but the quantity should not exceed two ounces, on account of the spirit in which this opium is dissolved. The third kind of clyster is required only in locked jaw, or in diseases of the throat which prevent swallowing; and in these its utility seems to be very questionable. As soon as the clyster has been injected, the tail should be kept close to the fundament for a few minutes, to prevent its being too hastily returned. This is particularly necessary when the anodyne clyster is employed. The pipe must be oiled or greased before it is introduced; and if its passage be obstructed by hard dung lodged in the gut, the hand should be gradually introduced in order to remove it.

ON THE PROPER EXPOSURE,

WITH SOME REMARKS ON THE MANAGEMENT OF

Apple & Peach Orchards.

Burlington, May 11th, 1820.

DEAR SIR.—Since writing my letter of the 7th, I have seen Mr. Harden's letter on the proper exposure of orchards, and as you express a wish that I should give you any opinion I may have formed on the subject, I will give you a few thoughts which have arisen from my own observation and experience.

I agree with Mr. Harden, that the preference given to a south-easterly aspect in England, arises much from their moist and cloudy atmosphere, and likewise from their high northern latitude, which would prevent the apple possessing any fine flavour, unless cultivated in situations favourably exposed. These remarks apply to our own country, in proportion to our distance from the equator. From my own observation on the orchards of Nova Scotia, and New England, they have been fully confirmed, I have never considered our orchards as more

liable to injury from frost, than those of the southern states; I am inclined to believe the risk of injury is less with us. I recollect the snow on the 8th of May, 1803, with several frosty nights from the 4th to the 11th, making ice $\frac{1}{2}$ of an inch in thickness, yet my fruit was all safe; I made a particular record of the fact. I have never known the Virginia Crabs (a southern apple) fail with us in the alternate of bearing year; whatever may have been the degree of cold, excepting last year, when they did not bloom—the blossom buds being killed in a prematurely advanced state, brought on by a series of mild weather in January, 1819. The high character of the Newark Harrison Apple, is, I believe, ascribed by all connoisseurs to the favourable aspect of the great orchards of this fruit, on the south side of the Orange Mountain near that town. The influence of the south-east aspect is not confined to the spring, it is probably still more operative in ripening the fruit in the autumn. In the preference I have given to a south-east aspect in my treatise, I had principally in view fruit liquor orchards, in the middle states; I still retain that preference, so far as respects apple orchards, which require autumnal warmth and dryness, as the days grow shorter to ripen the fruit. With regard to peaches, which ripen in hot weather, long days and warm nights, and which are disposed from their being natives of warm climates to blossom earlier; they ought to be planted in situations calculated to check, rather than encourage an early bloom; I have tried with great success a northern aspect, and even the north side of a building for apricots, the tenderest and earliest of our fruits. The northern situation of the rising and setting sun, is sufficient to impart to them a large portion of heat in the long days of summer; while the blossoming is retarded by the greater shelter afforded by the position of the sun in the spring.

Mr. Harden's theory of the beneficial influence of thaw, in the extraction of frost from blossoms and ripe fruit, I believe to be correct. A most interesting communication is contained in the transactions of the London Horticultural Society, proving the uniform benefit of watering plentifully the frozen limbs of trees before sunrise. I have this year kept the exquisitely flavoured St. Germaine Pear in high perfection, by suffering it to thaw in a dark chamber without fire, after being in a frozen state for two or three months; I kept them six weeks after they were thus thawed in great perfection.

Orchardists should never lose sight of the different climates of England and America, in reading the treatises obtained from the former country; so in this country, the climates of Kentucky and New York, are so different, that proper positions for orchards of apples and peaches, must depend almost as much on climate, as on aspect or soil.

I am with great respect, dear Sir,

Your obedient servant,

WILLIAM COXE.

JOHN S. SKINNER, Esq.

SOLID FEET REDUCED TO BUSHELS.

The foot contains 1728 inches. The bushel in use 2183 inches. For the farmer's estimates and gross

purposes, it will be near enough though not quite exact, to reckon for struck measure, the feet X. 0.8.

How many bushels of wheat will a room of 1000 solid feet hold?

0.8

800.0 800 bushels:

which is but about one per cent. short. But to multiply by .791 is very exact.

.791

1000

791 bushels exactly.

A cart body containing 40 feet.

.791

40

—32.0 bushels,

struck measure.

31.640 or 31 $\frac{64}{100}$.

THE FARMER.

BALTIMORE, FRIDAY, MAY 26, 1820.

None of our readers can have been more impatient to see, than we have been to shew them Mr. Pickering's Discourse before the Essex Agricultural Society. It will be found like all his agricultural reflections, plain, sound, and practical; every suggestion possessing its intrinsic value. The whole of it should have been given in one paper, but that is not necessary, since the author himself has arranged his reflections under different heads, well defined—thereby enabling the Printer to present, and the reader to consider each one independently.—The remaining topics are—I. ROOT CROPS—II. INDIAN CORN AND WINTER GRAIN—III. ON LIVE STOCK.

GREAT WESTERN CANAL.

The Commissioners of the great Western Canal, are summoned by Gov. CLINTON, the President of the Board, to meet at Utica, on the 20th of May, for the purpose of prosecuting this vast work. The middle section (ninety-six miles) is finished, and great progress is now making in the Eastern and Western Sections. It is probable that 50 miles more will be completed this season.

The Western Canal is open, and great quantities of lumber are wafted from Champlain and its borders to the Hudson.

NEW JERSEY

Salt Marsh Company.

The legislature of New Jersey has incorporated a Company, for the purposes of *draining, ditching, embanking, and cultivating* the SALT MEADOWS AND MARSHES, in the county of Bergen, in the above state. The rich and extensive improvements of the Messrs. Swartwout's at Hoboken and Newark, will go into the hands of the company, and they are empowered to make other purchases, until the capital originally amounts to 300 thousand dollars. The first Board of Directors consists of the following gentlemen:—Cadwallader D. Colden, Isaac Chauncey, William Bayard, John Swartwout, Robert Swartwout, Samuel Swartwout, Peter Augustus Jay, Charles G. Haines, Joseph G. Swift, Robert Tillotson, Henry Eckford, David J. Green, Richard Ricker, John Graham, George Buckmaster, Robert McQueen, John Targee, James L. Bell, of the city of New York, and John Condit, Robert Campbell, and William S. Pennington, of New Jersey.

This company will go into immediate operation, and promises great and essential benefits to the country.

Present Prices of Country Produce in this Market.

Actual sales of Wheat—WHITE, \$1 2 to \$1 4—RED, 97 cts. to \$1 2—CORN, 44 to 46 cts.—RYE, 55 to 57 cts.—HAY, per ton \$18 to \$19—STRAW, do. \$12—POTATOES, 50 cts.—FLOUR, from the wagons, \$4 62½ to \$4 75—WHISKEY, from do. 33½ to 34 cts.—BUTTER, 25 cts.—EGGS, 12½ cts.—LAMB, per quarter, 50 to 87½ cts.—BEEF, prime pieces, 10 cts.—LIVE CATTLE, \$6 50 to \$7—BALTIMORE PORK, retail \$16—BALTIMORE BEEF, \$13—BOSTON do. \$12 50 to \$13—BALTIMORE NO. 1, CABBLES, 20 cts.—BOSTON do. 19 cts.—CHEESE, 9 to 10 cts.—WHITE BEANS, per bushel, \$1 50—BLACK-EYE PEAS, per bushel, \$1—HERRINGS, Susquehannah, No. 1, retail, \$2 75—Do. No. 2, \$2 25—MACKEREL, No. 1, retail, \$7—Do. No. 2, \$6—Do. No. 3, \$5—COD FISH, \$3 to \$3 50—FEATHERS, 45 to 50—BEST LONDON WHITE LEAD, ground in oil, \$17—Do. dry, \$14 50—BOILED OIL, \$1 25—TAR, plenty, \$1 75—TURPENTINE, soft, \$2 25—ROSEN, \$1 75 to \$2, dull—SPIRITS, do. 30 cts.—PITCH, \$2 50—SHAD, trimmed, \$6, scarce.—Do. untrimmed, \$5—MARYLAND TOBACCO, a few hhd's. Patuxent, sold the present week for \$5, 7, and \$9, common quality—WAGON TOBACCO, selling for \$16 to \$19. No sales of Virginia Tobacco, that we have heard of.

POETRY.

From the "Microscope," a work edited by a fraternity of gentlemen in New Haven.

The fairest rose is far awa'.

The morn is blinking o'er the hills
With soften'd light and colours gay;
Through grove and valley sweetly trills
The melody of early day;
The dewy roses blooming fair
Glitter around her father's ha',
But still my Mary is not there—
The fairest rose is far awa'.

The cooling zephyrs gently blow
Along the dew-bespangled mead—
In every field the oxen low—
The careless shepherd tunes his reed—
And while the roses blossom fair,
My lute with softly dying fa'
Laments that Mary is not there—
The fairest rose is far awa'.

The thrush is singing on the hills
And charms the groves that wave around,
And through the vale the winding rills
Awake a softly murmuring sound;
The robin tunes his mellow throat
Where glitt'ring roses sweetly blaw,
But grieves that Mary hears him not—
The fairest rose is far awa'.

Why breath thy melody in vain
Thou lovely songster of the morn—
Why pour thy ever varying strain
Amid the sprays of yonder thorn—
Do not the roses blooming fair
At morning's dawn or evening fa'
Tell thee of one that is not there—
The fairest rose that's far awa'.

RUTA BAGA SEED.

A quantity of Ruta Baga, or Swedish Turnip SEED, warranted genuine, received and for sale at the reduced price of \$1 per lb. by

ELY BALDERSTON,
61, Smith's Wharf.

May 26th, 1820.

BALTIMORE,

PUBLISHED EVERY FRIDAY,

BY JOHN S. SKINNER, EDITOR.